# Chapter 3

# Statutory Framework Governing Software Acquisition

# Contents

# 3.1 Statutory Framework and Your Program

The statutory framework governing the acquisition of software-intensive systems was enacted by the Congress to reengineer an acquisition and management system that had grown out of control, cost too much, and was unresponsive to warfighter needs. Implementing the principles of performance-based management is a national strategic acquisition goal. The focus of oversight has shifted from micro-management of contractor to the results of those processes — quality products, timely deliveries, service excellence, competitive pricing, professional integrity, and proven performance. This chapter discusses the statutory background, which directs the policies under which you will manage acquisition to become part of a more responsive and efficient acquisition system.

# 3.2 Converting to the New Paradigm

> *"Our information technologies and our knowledge economy give us the opportunity to do things we never dreamed possible 50 years ago. But to seize this opportunity, we must pick up the wreckage of our industrial era institutions and rebuild."* — David Osborne [OSBORNE92]

The findings of the 1993 **National Performance Review (NPR),** led by Vice President Al Gore, were published in the final report, **Creating a Government That Works Better and Costs Less,** The report detailed the results of an intensive, six-month study of the Federal Government. It described Federal agencies overburdened by layers of bureaucracy, outdated, stovepiped software systems, needless miles of red tape, a quagmire of acquisition rules and regulations, inaccurate financial data, powerless government employees, and a frustrated American public.

Thirty years ago, the use of software/hardware goods and services (information technology) were relatively new to both the public and private workplace. The Federal Government (with DoD as the lead) was the world's largest buyer of information technology and most software systems were built exclusively for government use. While still the greatest single consumer of software-intensive technologies, the Federal Government has been out-paced by the commercial sector as the largest technology market. Aside from explicitly government-unique technology (e.g., weapon systems), the Government now seeks to buy mostly commercial items made for general automated information system (AIS) and command, control, and communication (C3) applications. Despite this change, many of the laws governing acquisition had not been changed since their inception.

Because effective use of knowledge-based systems defines the competitive edge, leading U.S. companies enhance, augment, upgrade, or replace their software-intensive assets every 18-months, to attain market advantage. In contrast, products routinely used in the commercial sector have not been available for government use for months, or even years, after their introduction. An antiquated, Federal acquisition system — causing lengthy delays and exorbitant costs — has hindered modernization operations. The result has been an inefficient, expensive Government unable to take advantage of the time and cost savings knowledge-based systems provide.

### 3.2.1 Information Technology Reinvention Paradigm

The NPR recommended a series of steps needed to strip away the antiquated industrial model and its maize of government red tape. The steps, which are germane to this discussion, include:

1. Streamline the budget process by removing the restrictions that literally force managers to waste money;
2. Streamline procurement to reduce the enormous waste built into a processes used to buy $200 billion a year in goods and services;
3. Reorient the inspectors general from punishing rule and regulation violations to helping agencies perform better; and
4. Eliminate thousands of other regulations that hamstring Federal employees. [GORE93]

**NOTE - The NPR Home Page contains a wealth of *"hands on"* tools for frontline Federal managers.**

## 3.3 Framework Governing Software Acquisition

> *"Making Government more effective and efficient is a national issue. But getting it to work better and cost less will be impossible if Federal agencies cannot learn to manage with modern practices the Information Age demands."* — Charles A. Bowsher, Comptroller General of the United States [BOWSHER96]

Since the NPR, the list of acquisition and management reform initiatives is formidable. DoD acquisition managers have had to implement a virtual barrage of reforms, involving new legislation, new contract vehicles, and new management practices. The new laws ease procedures for buying commercial services and products and require better business planning and results-oriented management for major software-intensive acquisitions. Moreover, each of these laws fits into a broader government-wide framework for accomplishing Federal reengineering missions and goals. Thus, today's acquisition environment brings a new DoD operational process. The challenge is to understand the laws and regulations, how they fit together, and how they affect your management task. Within this climate of radical change, gaining sufficient expertise to implement this process is crucial for acquisition success. [BURMAN98]

### 3.3.1 Integrated Legislative Suite

When implemented together, the Federal reform legislation provides a fully integrated information system for monitoring and assessing Federal agency missions and strategic priorities. [HINCHMAN97] It includes (in order of discussion):

- Chief Financial Officers (CFO) Act of 1990
- Government Management Reform Act (GMRA) of 1994
- Government Performance and Results Act (GPRA) of 1993
- Federal Acquisition Streamlining Act (FASA) of 1994
- Federal Acquisition Reform Act (FARA) of 1996
- Paperwork Reduction Act (PRA) of 1995
- Clinger-Cohen Act of 1996

As illustrated on Figure 3-1, the centerpiece of this statutory framework is the Government Performance and Results Act (GPRA). The GPRA requires DoD and other agencies to:

- Set multiyear strategic goals (with corresponding annual goals),
- Measure performance (towards achieving goals), and
- Report progress (annually).

Over the years, poor, inaccurate financial accounting has cost the Federal Government billions of dollars. To remedy this financial neglect the Congress enacted the Chief Financial Officers (CFO) Act, then expanded it with the Government Management Reform Act (GMRA). These laws require DoD and other agencies to maintain integrated accounting and financial management systems that enable accurate cost reporting and systematic performance measurement.

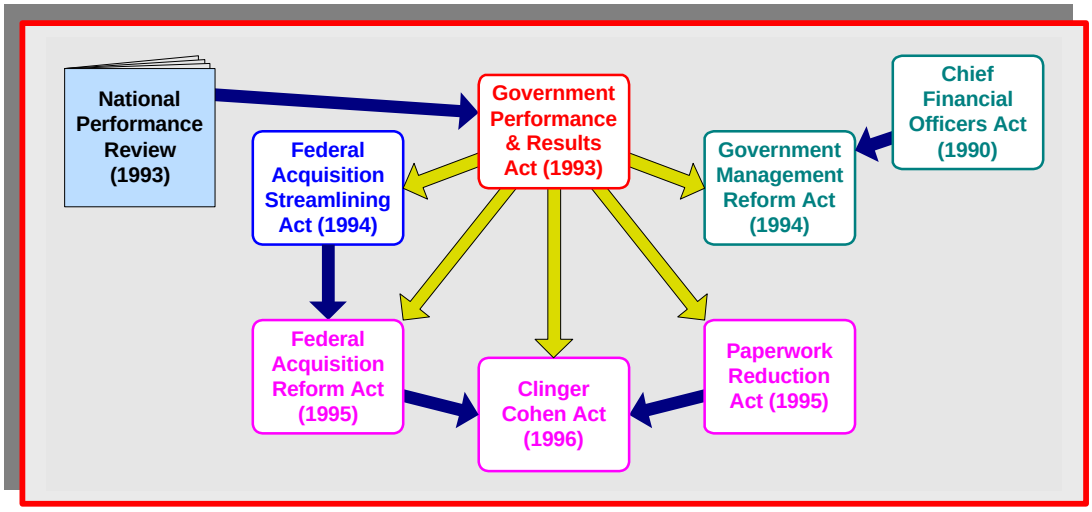


Figure 3-1. Relationship of Reform Legislation to the GPRA

Sound software acquisition management that supports Defense strategic goals is integral to improving mission performance, cutting costs, and enhancing warfighter responsiveness. This can be accomplished by:

- Successful acquisition program management,
- Treating software acquisitions as investments,
- Continually assessing the quality of cost estimates, and
- Measuring actual costs and comparing them with original estimates.

These cost estimating best practices are embodied in the information technology reform legislation of the Paperwork Reduction Act (PRA) and the Clinger-Cohen Act. The Clinger-Cohen Act requires that all software system investments include an assessment of estimated costs, benefits, and risks compared to alternative solutions.

The Federal Acquisition Streamlining Act (FASA) and the Clinger-Cohen Act streamlined the acquisition process and removed many barriers to Federal business process improvement. Under these laws, DoD and other agencies must now link technology plans to accomplishing mission goals. Through the Federal Acquisition Reform Act (FARA), Congress enacted new acquisition workforce requirements, streamlined the procurement process, and made buying commercial technology easier. [HINCHMAN97] The objective of all these legislative acts is to increase your ability to focus on DoD acquisition program goals — *acquisition success*!

## 3.3.2 Chief Financial Officers (CFO) Act

The Chief Financial Officers (CFO) Act of 1990 requires that DoD (and other agencies covered by the Act) improve financial management and reporting operations. The CFO Act calls for the integration of Federal accounting and budgeting systems and the independent audit of agency financial statements. This linking of accounting and budgeting systems and the rigors of financial audit are intended to improve budget data accuracy.

The CFO Act established government-wide Chief Financial Officers (CFOs) and attempted to ensure that oversight officials have accurate and complete information to assess whether agency funds are being spent as intended by the Congress. CFO functions include the development and reporting of cost information and the systematic measurement of performance, including in-house and contractor performance. In January 1991, DoD established the Defense Financial Audit Service (DFAS) in response to the CFO Act. It provides accounting support to all the Services to improve, standardize, and consolidate financial and accounting policy, systems, and operations.

## 3.3.3 Government Management Reform Act (GMRA)

The GMRA of 1994 made the CFO Act's requirements for annual audited financial statements permanent and expanded its authority to include the entire Executive Branch. It defines an agenda to resolve the Government's lack of timely, reliable, useful, and consistent financial information. Under this law, DoD must annually prepare and have audited department-wide financial statements. The Office of Management and Budget (OMB) designated the Military Services as "*Components*," which are also required to prepare annual audited financial statements. The GMRA is an attempt to provide congressional and Executive Branch decision-makers with accurate, audited financial and program cost information. How the CFO Act and GMRA relate GPRA program performance and financial result requirements to the Annual Budget Request is illustrated on Figure 3-2.

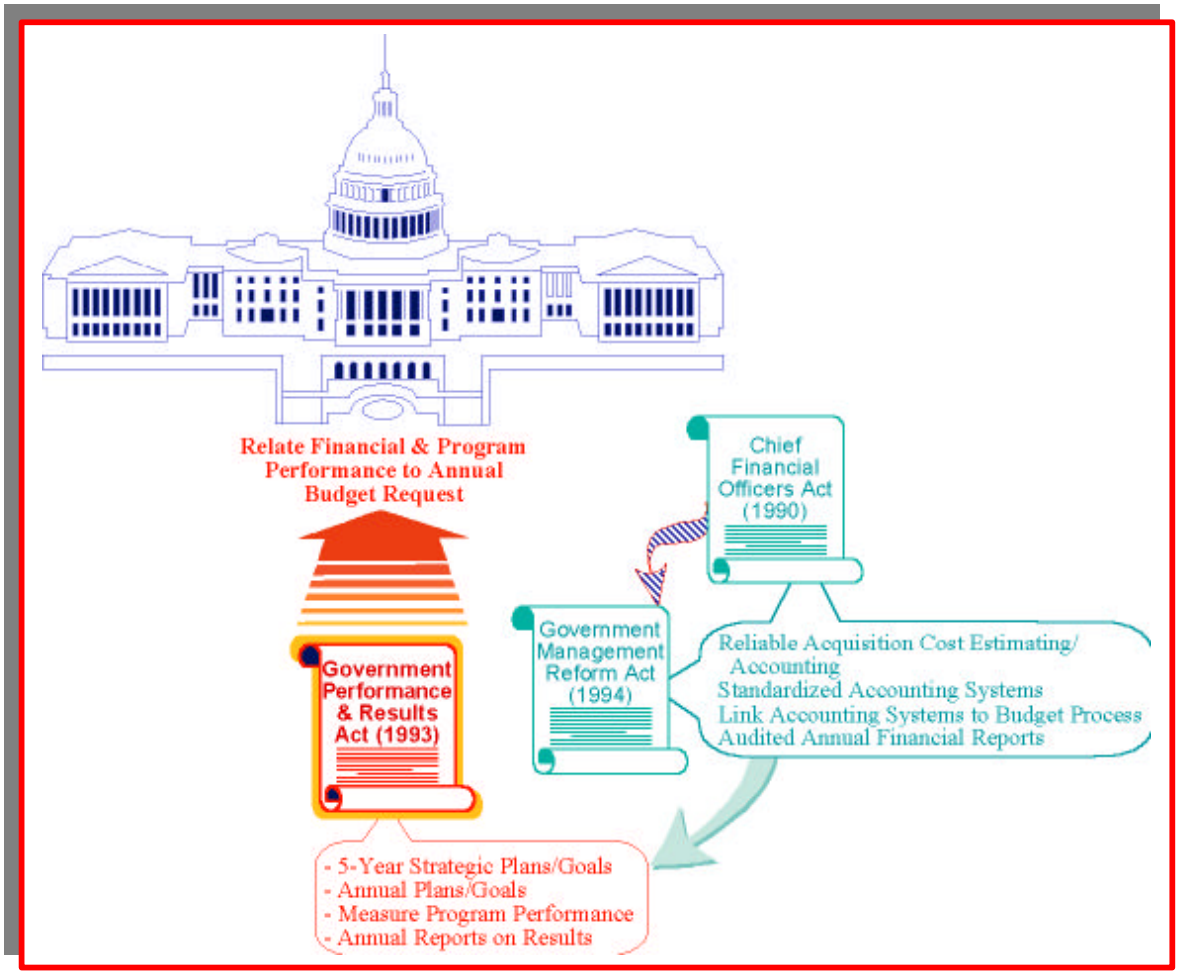


Figure 3-2. CFO Act and GMRA Link GPRA Financial and Program Performance Results to Budget Decisions

## 3.3.4 Government Performance and Results Act (GPRA)

Congress enacted the **GPRA** of 1993 to improve the effectiveness, efficiency, and accountability of Federal programs by having DoD and other agencies direct management focus towards *program results*. The GPRA differs from the past 50-years of government reform initiatives in two important ways. First, the GPRA defines a government-wide, multiyear, iterative implementation process, which includes pilot programs and formal reform concept evaluations. Thus, the GPRA increases the likelihood for integrating planning, budgeting, and performance measurements while guarding against unreasonably high expectations, which disappointed earlier reform initiatives. Second, the GPRA embodies a new operational environment by linking performance outcomes and spending results to budget decisions.

Under the GPRA, DoD and other agencies must develop a department-wide 5-year strategic plan, annual performance plans and measures, and annual performance reports. The specific requirements of these plans, measures, and reports are outlined in *DoD Memorandum: Government Performance and Reports Act*, discussed next. The GPRA specifically defines the following:

- **Outcome measure**. An assessment of program activity results compared to intended program goals (e.g., regional peace or communism expunged).
- **Output measure**. The tabulation, calculation, or recording of an activity or effort (e.g., sorties flown or missiles launched).
- **Program activity**. The programs and activities listed in the Appendix section of the Budget of the United States Government.

The goal of linking resources with results has potential risks as well as rewards. The risk lies in expecting too much too soon. For example, it is difficult to tie discrete, long-term outcomes to specific budget commitments, or expect that performance results can quickly provide solutions under annual budget constraints. Conversely, the GPRA has the potential to interject explicit performance results into Defense budget decisions, thus changing the debate from simple inputs to expected and quantifiable outcomes. The GPRA also requires that DoD plan and measure performance using the same structures as those used in the annual Defense budget request — i.e., *program activities*. This aims at assuring a simple, straightforward link among plans, budgets, performance information, and the related congressional oversight and resource allocation process.

The Government Accounting Office (GAO) guidebook, **Executive Guide: Effectively Implementing the Government Performance and Results Act**, identifies a set of key steps and associated practices that leading organizations have used to successfully implement reform efforts consistent with the GPRA. [BOWSER98] Figure 3-3 illustrates these key steps and associated practices.

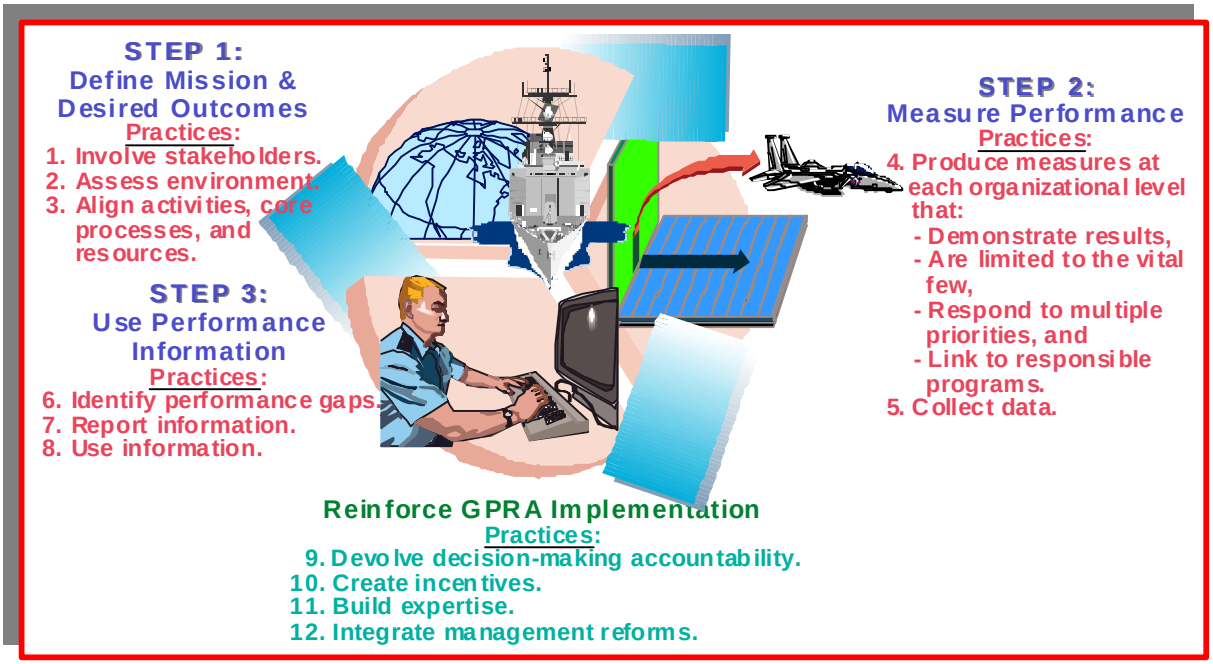


Figure 3-3. Key Steps and Critical Practices for Effectively Implementing GPRA **[BOWSHER96]**

**NOTE - The National Partnership for Reinventing Government (NPR)** Managing for Results Home Page **contains more information on the Results Act and related web sites.**

### 3.3.4.1 DoD Memorandum: GPRA

DoD Memorandum: *Government Performance and Results Act (GPRA)*, signed by the Under Secretary of Defense on 30 April 1997, outlines DoD policy for compliance with GPRA requirements. This includes a 5-year strategic plan, annual performance plans, and annual reports to Congress on program progress in meeting performance goals.

- **DoD Strategic Plan**. The GPRA requires that all government agencies submit a 5-year strategic plan to the OMB and to the Congress. DoD fulfilled GPRA requirements for a strategic plan with the Quadrennial Defense Review (QDR). The QDR will be used to revise DoD's mission statement, vision, and corporate goals. It will be incorporated in the Defense Planning Guidance (DPG) issued by the SECDEF. DoD's plan for GPRA implementation includes integrating GPRA requirements with the Planning, Programming, and Budgeting System (PPBS. GPRA guidance will be channeled through key PPBS documents, including the DPG, the Program Objectives Memoranda (POM) Preparation Instructions (PPI), Program Decision Memoranda (PDMs), and the annual budget call.
- **DoD Performance Plan**. In addition to a strategic plan, the GPRA requires that DoD submit annual performance plans and performance reports. The performance plan contains performance measures and targets that, if achieved, indicate progress towards meeting the goals and objectives of the QDR.
- **Performance Report**. The GPRA performance report is an accountability document that contains the quantitative results and program evaluations defined in the performance plan. The first performance report is due March 2000. For performance plan and reporting purposes, the Assistant Secretary of Defense (Strategy and Requirements) will extract DoD's "*corporate goals*" from the QDR and publish them annually in the DPG. During program review, the Office of Program Analysis and Evaluation (PA&E) will select performance measures that indicate progress towards meeting QDR goals, and conduct a review to ensure that component POMs are programmed accordingly. Figure 3-4 illustrates how the GPRA provisions are implemented by the QDR and products of the PPBS process.

Although GPRA provisions outline incremental implementation, agency compliance has not been as successful as the Congress had envisioned. GAO reviews indicate that continued progress is needed in how agencies address three difficult planning challenges:

- Setting a strategic direction,
- Coordinating crosscutting programs, and
- Ensuring the capacity of information systems is sufficient to gather, process, and analyze GPRA required performance and cost data.

Specifically, many of the strategic goals contained in agencies' strategic plans fail to focus on results to the extent feasible and are not always expressed in a manner conducive to assessing progress in terms of actual performance. [STEVENS98] In addition, GPRA implementation may not become effective until well after the Year 2000 (Y2K), when the expense and challenge of the Y2K software bug is behind us. At that time, agencies will be able to focus on acquiring information systems with the capacity needed to track, measure, and control their mission-critical programs in a manner compliant with the GPRA.

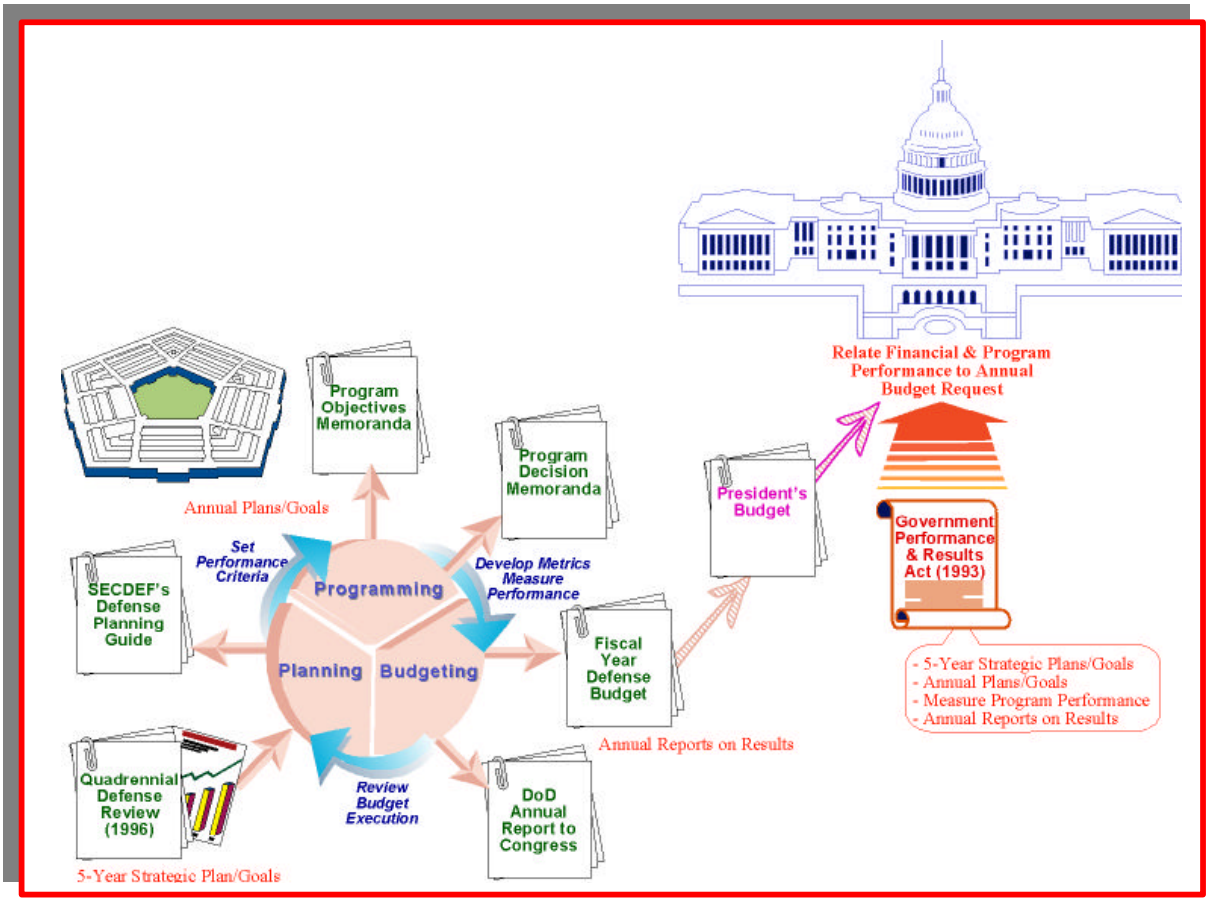


Figure 3-4. DoD Compliance with the GPRA through the PPBS Process

### 3.3.4.2 Quadrennial Defense Review (QDR)

The **Report of the Quadrennial Defense Review (QDR)** [required by the Military Force Structure Review Act, included in the FY97 National Defense Authorization Act], was completed in May 1997. It represents the most comprehensive review ever conducted of Defense posture, policy, and programs. It examined national security threats, risks, and opportunities facing the United States up to the year 2015. It categorized these items into force structure, readiness posture, military modernization programs, defense infrastructure, and other DoD elements. Based on this analysis, a defense strategy was designed to implement the national defense goals outlined in the **President's National Security Strategy for a New Century**. According to SECDEF William S. Cohen,

> *"That was the great contribution of the Quadrennial Defense Review: to give us a realistic plan to reach this visionary goal, not only to modernize the force — which implies evolutionary change — but also to foment revolutionary change to take our forces well into the future."* [COHEN97[1]]

One Quadrennial Defense Review (QDR) objective was to understand the financial risk in DoD program plans and devise ways to manage that risk. The QDR identified sources of instability built into the Fiscal Year Defense Plan (FYDP) and presented plans to mitigate that instability through more realistic planning assumptions in the FY99DP. These assumptions include more

force structure and personnel reductions, more base closures and realignments, streamlining operations, and more prudent new weapon acquisitions.

By adopting commercial best practices, streamlining management oversight, eliminating redundant functions, and outsourcing or privatizing where appropriate, the Defense Departments will be able to further reduce infrastructure costs and personnel. This will be accomplished by business process reengineering and the acquisition and adoption of software-intensive technologies. DoD's strategy for preparing now for an uncertain future has four main parts.

1. **Replace aging weapon systems**. Pursue a focused modernization effort by acquiring cutting-edge technologies to ensure continued U.S. military superiority over time.
2. **Exploit the Revolution in Military Affairs (RMA)**. Links modernization efforts to transforming warfighter capabilities to retain our military superiority in the modern art of warfare and a volatile security environment. To ensure U.S. forces dominate any future battlefield, software-intensive systems will be harnessed through advanced concepts, doctrine, and organizations. According to SECDEF Cohen,

   *"…an important thing to keep in mind as we pursue this revolution is that history shows that [the] most critical aspect of profound military innovation is not technology, but understanding what we can do with it. The primary, important military technologies are increasingly widely available. The key to success is developing innovative operational concepts, doctrine, and organizations that can best exploit these technologies."* [COHEN97[2]]

3. **Exploit the Revolution in Business Affairs (RBA)**. The RBA is an initiative to improve the efficiency and performance of DoD support activities by adopting the business best practices employed by leading private sector organizations. These include "reengineering" or "reinventing" DoD support (business) functions (e.g., streamlining, reorganizing, downsizing, consolidating, automating, and commercializing operations). These measures are projected to free resources for investment in high-priority RMA areas. Successful implementation of RBA activities will result in:

   - Shorten cycle times (particularly with the acquisition of mature systems);
   - Enhanced program stability;
   - Increased efficiencies; and
   - Assurance that management stays focused on core competencies.

   Sources of projected revenue savings include:

   - Reduced overhead and streamlined infrastructure;
   - Taking maximum advantage of acquisition reform;
   - Outsourcing and privatizing of support activities (when the necessary competitive conditions exist);
   - Leveraging commercial and dual-use technology and open systems;
   - Reductions in unneeded standards and specifications;
   - Integrated process and product development; and
   - Increased cooperative development programs with allies.

4. **Insure for contingencies**. Hedge against unlikely, but significant, future threats by managing risk in a resource-constrained environment. Position the U.S. military to respond in a timely and effective manner to new threats as they emerge. This will be accomplished through the Acquisition Reserve of Funds.

The Acquisition Reserve of Funds is a QDR initiative that addresses DoD's often notorious and long-standing acquisition problems. It is based on the premise that

> *"…complex, technologically advanced programs all bear some risk of costing more than planned. When unforeseeable growth in cost occurs, offsets from other programs must be found, which in turn disrupts the overall modernization program. Our programming process must provide sufficient flexibility in the form of program reserves to address this risk."* [QDR97]

The Acquisition Reserve of Funds will to be used to mitigate the effect of unforeseen problems that might threaten to upset an acquisition program's cost and schedule. DoD plans to begin accumulating the risk reduction fund in FY00 and expects it to grow to about $1 billion by FY03. Revenues will be accrued from contributions by the Office of the Secretary of Defense (OSD) and the Services.

The Reserve has the potential for both risks and rewards. For example, the Reserve could be used for communicating to acquisition managers those practices that are encouraged and those that are not. If DoD allows acquisition programs to use the fund to pay for problems revealed late in development or early in production, the fund could reinforce existing incentives for not dealing with risks until they become full-blown problems. Conversely, if program managers are encouraged to use the fund to mitigate risks early to preclude future problems, it could be used to reward managers for revealing risks early in the acquisition cycle when they are still solvable. [HINTON98]

## 3.3.5 Federal Acquisition Streamlining Act (FASA)

> *"The Acquisition Streamlining Act of 1994 is the most significant change in law affecting procurement in five decades. It will transform the way we buy goods and services. We have turned the system upside down...now we must tell the contractor what we need the system to do, not how to do it."* — Dr. Paul Kaminski [KAMINSKI94]

On 13 October 1994, the **Federal Acquisition Streamlining Act (FASA)** became public law. This law was designed to create a more equitable balance between government-unique requirements and the need to lower the cost of doing government business. According to Norm Augustine, former Under Secretary of the Army and former Lockheed Martin Corporation CEO, this legislation is "the first successful initiative in memory to reform the much-maligned defense acquisition process." [AUGUSTINE95]

The FASA contains more than 200 sections changing the laws that govern how DoD and other Federal agencies acquire almost $200 billion in goods and services annually. [DRELICHARZ94] With the enactment of the FASA, a comprehensive definition of commercial item was included in the **Federal Acquisition Regulation (FAR)**. The FASA lifts many formerly rigid acquisition regulations and allows DoD to better implement management best practices. FASA reform provisions, as outlined by the Federal Acquisition Institute, affecting the acquisition of major software-intensive systems include the following.

- **Market research**. Before developing new requirements documents to solicit offers, DoD should collect and analyze information about existing capabilities within the commercial marketplace that can satisfy Defense needs.
- **Preference for COTS and NDI**. The FASA established a preference for commercial-off-the-shelf (COTS), and then non-developmental items (NDI), *to the maximum extent practicable*. Only when it is determined that neither of these items is available, can DoD consider buying custom-developed, DoD-unique items.
- **Quality and non-price evaluation factors**. DoD must consider [service and product] quality in every source selection, by including one or more non-price evaluation factors (e.g., past performance, technical excellence, management capability, personnel qualifications, prior experience, or schedule compliance).
- **Commercial buying practices for COTS**. The FASA limits contract clauses for the purchase of COTS to those required by law or those consistent with standard commercial practices. For example, when acquiring COTS, the Government reserves the right to not debrief all bidders. Acquisition managers are also encouraged to use commercial-like management practices so suppliers do not need separate DoD and commercial production lines. This includes:
  - Relying on the contractor's inspection system,
  - Acquiring limited, minimal data rights,
  - Relying on past performance,
  - Using product literature and product samples for technical evaluation,
  - The use of oral presentations,
  - Using buyer financing, and
  - Relying on limited warrantees. [BRISLAWN97]
- **FACNET**. The FASA established the Federal Acquisition Computer Network (FACNET), an automated list of what the Government wants to buy. With FACNET, suppliers are able to submit proposals electronically, eliminating paper solicitations and contracts.
- **Indefinite delivery indefinite quantity (IDIQ)** and multiple award contracts. The use of indefinite quantity contracts rather than a requirements contract is encouraged. When using indefinite quantity contracts, multiple awards are the preference.
- **Contractor past performance**. The Government may use contractor past performance to identify the offeror with the best track record in providing quality deliverables, controlling costs, and minimizing the need for Government oversight.
- **Performance-based payments**. Performance-based payments are contract financing payments for fixed-price contracts based on:
  - Performance measured by objective, quantifiable methods,
  - Accomplishment of defined events, or
  - Other quantifiable measures of results. [GUIDE95]

#### 3.3.5.1 FASA Title V Subtitle A

Title V of the FASA implements the results-oriented, performance-based management requirements of the GPRA. Title V provisions are outlined in Subtitle A for DoD (and Subtitle B for civilian agencies). Subtitle A discusses the development of measurable cost, schedule, and performance goals, incentives for acquisition personnel to reach these goals, the need to reduce the time for technology insertion, and the review of program cycle regulations.

#### 3.3.5.1.1 DoD Acquisition Program Cost, Schedule, Performance Goals

At the end of each fiscal year, the Director of Acquisition Program Integration must determine whether each Major Defense Acquisition Program (MDAP) has reached 90% or more of its cost, schedule, and performance goals when compared to Acquisition Program Baseline (APB) thresholds. If 10% or more of a program's goals are missed, a timely review is required to address whether a program breach is needed and to recommend suitable action, including termination. Major acquisition program baselines must be coordinated with DoD's Comptroller before approval.

#### 3.3.5.1.2 Acquisition Personnel Performance Incentives

DoD must provide a system of incentives for acquisition managers that relates pay, evaluations, and promotions to contributions in achieving program goals. Incentives must be reviewed and personnel actions identified that encourage acquisition management excellence. Recommendations for legislative changes needed to improve the management of acquisition programs and personnel are to be submitted to the Congress.

### 3.3.5.2 Technology Insertion

DoD must report annually on whether the average period for converting emerging technology into operational capability has decreased by 50% or more from the average period at the date of the FASA's enactment. DoD plans to reduce the time for technology insertion by:

- Using commercially available technologies;
- Encouraging tradeoffs between cost, schedule, and performance at various development stages; and
- Expanding the use of Advanced Concept Technology Demonstrations (ACTD).

### 3.3.5.3 Program Cycle Regulations

DoD must review its regulations to ensure that acquisition program cycle procedures focus on achieving goals consistent with the Program Baseline Description. [COOPER96] Figure 3-5 illustrates main FASA and Title V provisions.

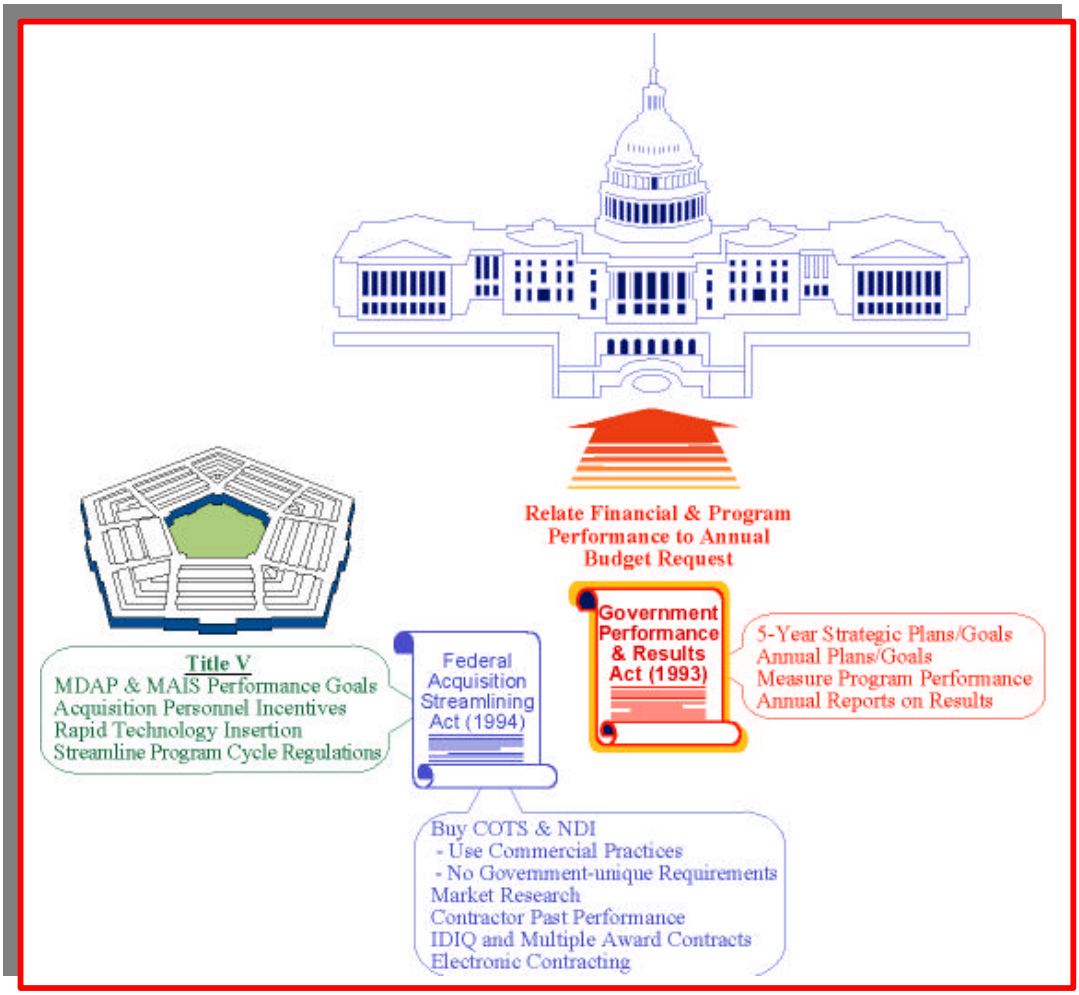


Figure 3-5. FASA and DoD Title V Provisions

## 3.3.6 Federal Acquisition Reform Act (FARA)

The **Federal Acquisition Reform Act (FARA)** of 1995 (included in the FY96 National Defense Authorization Act) contains provisions to reform Federal acquisition laws that apply to the management of information technology. The FARA also refined certain provisions of the FASA and outlined reforms that were further enacted by the Clinger-Cohen Act (discussed below). FARA provisions include the following.

- **Small purchase threshold**. It increased the threshold for small purchases to $100,000. Thus, the FARA applies to procurements between $100,000 and $5,000,000 (in constant FY95 dollars), which accounts for 63% of what the Federal Government spends on computer software and hardware goods and services.

**NOTE - The Defense Federal Acquisition Regulation Supplement (DFARS) increased the simplified acquisition threshold to $200,000 for any contract awarded and performed outside the United States in support of a contingency operation.**

- **DoD acquisition workforce reduction**. The FARA requires the consolidation of the Defense acquisition organization and a 25% reduction of DoD's acquisition workforce by 2000.
- **Efficient solicitation process.** To make the acquisition process more efficient and streamlined. For example, the FARA contains provisions that allow the Government to limit the number of proposals submitted within the competitive range (as stated in **FAR Part 15**).
- **Commercial-off-the-shelf (COTS) items**. As stated in **FAR Part 12**), the FARA lifts the requirement for certified cost or pricing data for certain COTS items (e.g., information technology); applies simplified acquisition procedures to COTS; and exempts some COTS purchases from certain procurement laws and certification requirements.
- **COTS modifications**. The FARA does not apply to *modifications* of COTS items normally available to the general public or *minor modifications* made to meet Federal requirements not available in the commercial marketplace. Minor modifications are those that do not significantly alter the item's (or component's) non-government function, essential physical characteristics, or change the purpose of a process.
- **Commercial services**. The FARA applies to commercial support services, such as installation, maintenance, repair, and training, if they are provided to the Government using the same workforce and under similar terms and conditions as those offered to the public.
- **Non-developmental items (NDI)**. The FARA applies to NDI, if the Government determines that the NDI was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple State and local governments.
- **Modular contracting**. The FARA encourages agencies to use modular contracting for an acquisition of a major system of information technology instead of making large, single purchases of these systems. The FARA does not mandate modular contracting in every acquisition, but says this method should be used *to the maximum extent practicable*. It also states that each increment of an information system acquisition should, *to the maximum extent practicable*, be awarded within 180 days after the date the solicitation is issued. After contract award, each increment should be delivered to the Government within 18 months. [FONTANA97] Figure 3-6 illustrates FASA and FARA acquisition reforms provisions.

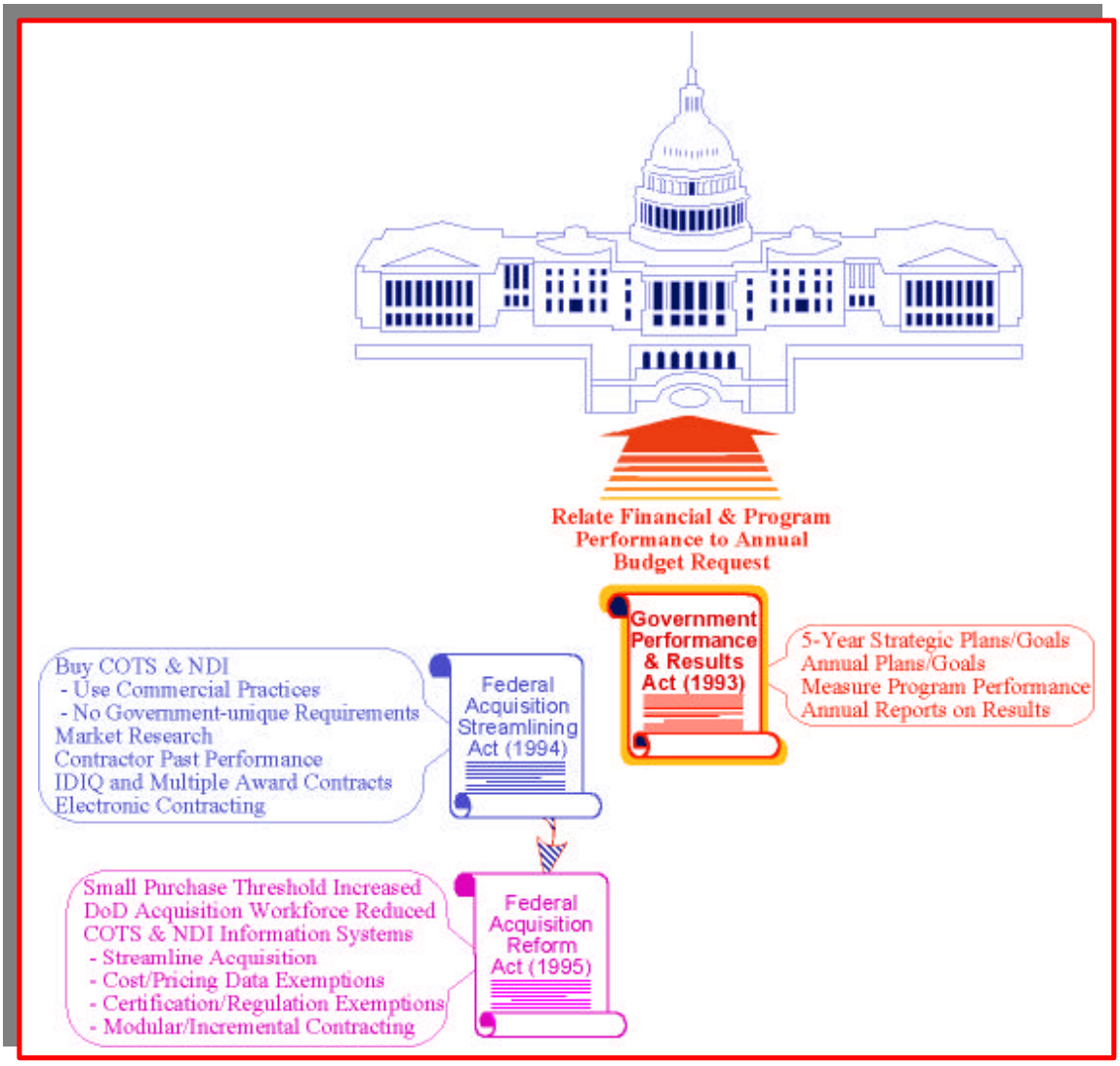


Figure 3-6. FASA and FARA Acquisition Reform Provisions

## 3.3.7 Paperwork Reduction Act (PRA)

While DoD and other agencies have vast information system investments, the benefits of these resources have frequently been disappointing. As you learned in Chapter 2, Software Victory: Exception or Rule, information system acquisitions often experience schedule slips, incur cost overruns, and fail to provide promised improved mission performance. **The Paperwork Reduction Act (PRA)** of 1995 [amending the PRA of 1980 and expanded by the Clinger-Cohen Act (discussed next)] incorporates the information technology management best practices of leading public and private sector organizations. The PRA requires that DoD and other agencies improve operational efficiency and achieve mission goals through the results-oriented use of software-intensive technologies. PRA goals include:

- **Paperwork burden**. Minimize the paperwork burden resulting from the collection of information by or for DoD.
- **Government Information Resource Management (IRM) practices**. Coordinate, integrate, and standardize DoD information resource management policies and practices.
- **Data quality**. Improve the quality and use of Defense information;
- **Data cost**. Minimize the cost of creation, collection, maintenance, use, dissemination, and disposition of DoD information.
- **Results-based information system acquisitions**. Ensure that information systems are acquired, used, and managed to improve DoD mission performance.

The PRA requires that DoD and other agencies develop and maintain a strategic Information Resource Management (IRM) Plan that describes how IRM activities are used to accomplish agency missions. DoD must develop and maintain an ongoing process to address the following.

- **Leveraged IRM decisions**. Ensure that IRM operations and decisions are integrated with organizational planning, budget, financial management, human resource management, and program decisions.
- **Accurate information resource cost data**. In cooperation with the Defense Financial Audit Service (DFAS), develop a full and accurate accounting of information system expenditures, related expenses, and results.
- **Results-oriented information resource goals**. Establish GPRA performance-based goals for improving the contribution of information resources to program productivity, efficiency, and effectiveness. Establish methods for measuring progress and define clear roles and responsibilities for achieving performance goals.
- **Continuously updated information resource inventories**. Maintain a current and complete inventory of information resources.
- **IRM training programs**. Provide formal IRM training for program and management officials.

The PRA requires OMB's Office of Information and Regulatory Affairs (OIRA) to establish the following goals:

- A government-wide 10% paperwork reduction goal for FY96 and FY97;
- A 5% reduction goal for FY98 to FY02, and
- Annual agency paperwork reduction goals to the *maximum practicable opportunity*.

On 13 January 1997, OMB instructed DoD and other agencies to establish goals and timetables to achieve a cumulative paperwork reduction of 25% by the end of FY98. [BROSTEK97] Figure 3-7 illustrates the relationship of the PRA to the CFO/GMRA and the GPRA.

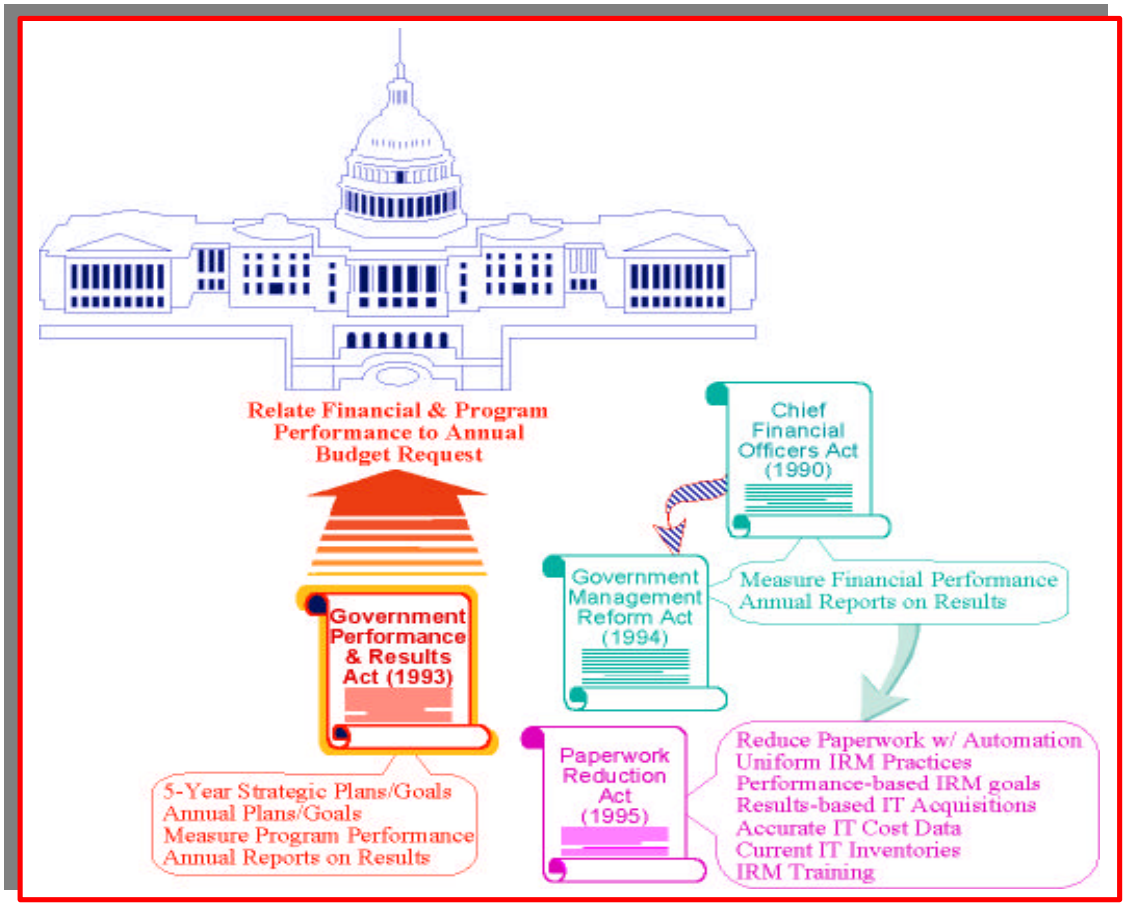


Figure 3-7. Relationship among the PRA, CFO / GRMA, and GPRA

### 3.3.7.1 Moving to a Paper-Free Contracting Process

**USD Management Reform Memorandum: Moving to a Paper-Free Contracting Process** by 1 January 2000, was signed by Undersecretary of Defense, John J. Hamre, on 21 May 1997. To simplify and modernize the DoD acquisition process in the area of contract writing, administration, finance, and auditing, the Under Secretary of Defense (A&T) was assigned the responsibility for developing a blueprint to move to the Department to a totally paper-free contract writing, administration, finance, and auditing process. The plan incorporates the Department's ongoing initiatives for use of purchase cards, electronic catalogues, electronic commerce and imaging.

## 3.3.8 Clinger-Cohen Act

The **Clinger-Cohen Act of 1996** [formerly the Information Technology Management Reform Act (ITMRA)] was enacted to address long-standing, government-wide weaknesses in information resource management. It defines an integrated set of acquisition and management best practices needed to build the information technology infrastructure outlined in the NPR (discussed above). It repealed the 1965 Brooks Automatic Data Processing Act, characterized by strict regulatory control over information resources, an excessive documentation approval process, and a lengthy acquisition cycle in which systems were often obsolete when fielded.

*The Clinger-Cohen Act* [also called the "*Cohen Act*," "*CCA*," or "*CIO Act*"] *is the GPRA and FARA for information resource acquisition and management*. It applies GPRA performance-based principles to information resource management (IRM) and carries FARA information technology acquisition reform legislation a step further. Under the Cohen Act, DoD and other agencies must develop agency-wide information resource strategic plans, annual performance plans and measures, and annual performance reports on information resource programs. The specific requirements of these plans, measures, and reports are outlined in OSD Memorandum: *Requirements for Compliance with Reform Legislation for Information Technology*, discussed next. Major Cohen Act results-oriented provisions include:

- **Chief information officer (CIO).** The Cohen Act directs DoD and other agencies to implement modern management practices where senior executives are directly responsible for information resource decisions. It requires the appointment a qualified, senior-level Chief Information Officer (CIO) to establish strict, DoD-wide information technology standards and impose discipline over technology spending. The DoD CIO must ensure that inefficient work processes are reengineered and that information resource contributions towards accomplishing mission objectives are measured, evaluated, and reported to OMB.
- **Decentralization of procurement authority.** With the repeal of the Brooks Act, DoD and other agencies can purchase their own information systems without having to go through the General Services Administration (GSA). OMB imposes oversight control over DoD information system spending through the budgeting process.
- **Capital planning and investment control.** DoD and other agencies must make investment decisions based on measurable criteria related to risk-adjusted ROI, alternative solutions, shared benefits or costs with other agencies, and verifiable progress towards meeting mission schedule, quality, and cost goals.
- **Performance and results-based management.** DoD and other agencies must establish strategic performance goals for all major information systems that support the Department. DoD must quantitatively assess performance improvement progress against comparable private or public sector best practice benchmarks. These assessments are to include cost, schedule, productivity, and quality of results. Progress in meeting strategic goals must be analyzed, and mission-related processes reengineered (as appropriate) before significant information system investments are made to support those processes.
- **Accountability.** DoD and other agencies must ensure that AIS accounting, financial, asset management, and other information systems provide reliable, consistent, and timely performance data.
- **Standards and guidelines.** Standards and guidelines for efficiency, security, and privacy of DoD information systems must be established, maintained, and followed. The Director of OMB will evaluate DoD's management practices and mission performance before approving major information system investments, *to the extent practicable*.
- **Information technology acquisition.** The Federal Acquisition Regulatory Council (responsible for the FAR) is responsible for ensuring that the process for acquiring major information systems is simplified, clear, and understandable. This process must address risk management, incremental acquisition, and the timely incorporation of COTS. For the acquisition of MAIS systems, modular contracting [discussed above] is to be used *to the maximum extent practicable*.
- **Procurement protest authority.** With the repeal of the Brooks Act, the GSA Board of Contract Appeals has been abolished. Procurement protest authority resides with the U.S. Comptroller General and the GAO.

- **Process improvement**. To be funded, information system investments must produce quantifiable improvements in the way people work or missions are performed. Processes must be improved rather than automating existing business functions or replacing old technology. In addition, major AIS and C3 investments must lead to meaningful, bottom-line ROI. Programs with low potential to provide quantifiable improvements must be identified early and terminated or avoided.
- **Technical architecture**. An integrated information technical architecture is critical to prevent fragmented, stove-piped systems DoD-wide. Technology applied to new business processes must be compatible with, and seamlessly integrated into, the DoD information technical architecture.

**Executive Order 13011**, *Federal Information Technology*, implements the Cohen Act. It established an agency-wide CIO council to serve as a forum, share ideas, and make government-wide recommendations. The Order also established the **Government Information Technology Services Board (GITSB)** to assure that NPR recommendations are carried out. Concerns over National Information Infrastructure (NII) security issues resulted in a revision to **OMB Circular A-130**, *Management of Federal Information Systems*. **Federal Acquisition Regulation, "Section 39.001**, *Acquisition of Information Resources*," has been rewritten to reflect Cohen Act acquisition policies.

**NOTE - See the** Federal CIO Home Page **for an updated list of relevant Cohen Act-related documents.**

### 3.3.8.1 Raines Rules

**OMB Memorandum 97-02**, *Funding Information Systems Investments* (issued by OMB Director Franklin D. Raines), referred to as "Raines Rules," summarizes eight strict information technology performance and investment criteria. To receive continued Congressional funding, DoD must meet certain criteria when reporting to OMB. According to Raines Rules, DoD investments in major information systems proposed for funding in the President's Budget should comply with the following.

- **Mission support**. Information system acquisitions must support core DoD mission functions.
- **Alternative sources**. Information system acquisitions are undertaken because no alternative private or government source can effectively support the DoD function.
- **Work process reengineering**. Information system acquisitions must support work processes that have been simplified or redesigned to reduce costs, improve effectiveness, and make the maximum use of COTS.
- **Business case analysis**. Information system acquisitions must demonstrate a projected ROI that is equal to or better than alternative uses of public resources. ROI may include:
  - Improved mission performance in accordance with GPRA measures;
  - Reduced cost;
  - Increased quality, speed, or flexibility; or
  - Increased warfighter or worker satisfaction.

- **DoD information architecture consistency**. Information system acquisitions must be consistent with Federal, DoD, Service, and DoD agency information architectures which:
  - Integrate DoD work processes and information flows with software-intensive technology to achieve strategic Defense goals;
  - Reflect the DoD IM Strategic Plan and the DoD Year 2000 Management Plan; and
  - Specify standards that enable information exchange and resource sharing, while retaining flexibility in the choice of suppliers and local work process design.
- **Reduce risk**. Reduce information system acquisition risk by:
  - Avoiding or isolating custom-designed components to minimize potential adverse impacts on the overall system;
  - Using fully tested pilots, simulations, or prototype implementations before going to production;
  - Establish clear measures and accountability for program progress; and
  - Secure substantial involvement and buy-in from all program stakeholders.
- **Modular contracting**. Information system acquisitions are implemented in phased, successive increments as narrow in scope and as brief as practicable, each of which fulfills a specific function or an overall mission need. Each increment must deliver a measurable net ROI independent of future increments.
- **Risk sharing**. Employ an acquisition strategy that appropriately:
  - Allocates risk between DoD and the contractor;
  - Effectively uses competition;
  - Ties contract payments to accomplishments; and
  - Makes maximum use of COTS.

Figure 3-8 lists Cohen Act-related documents. Figure 3-9 illustrates how the Cohen Act relates to the GPRA. Where the GPRA is the statutory framework centerpiece for results-based management, the Cohen Act is the information technology centerpiece for results-based management and acquisition reform.

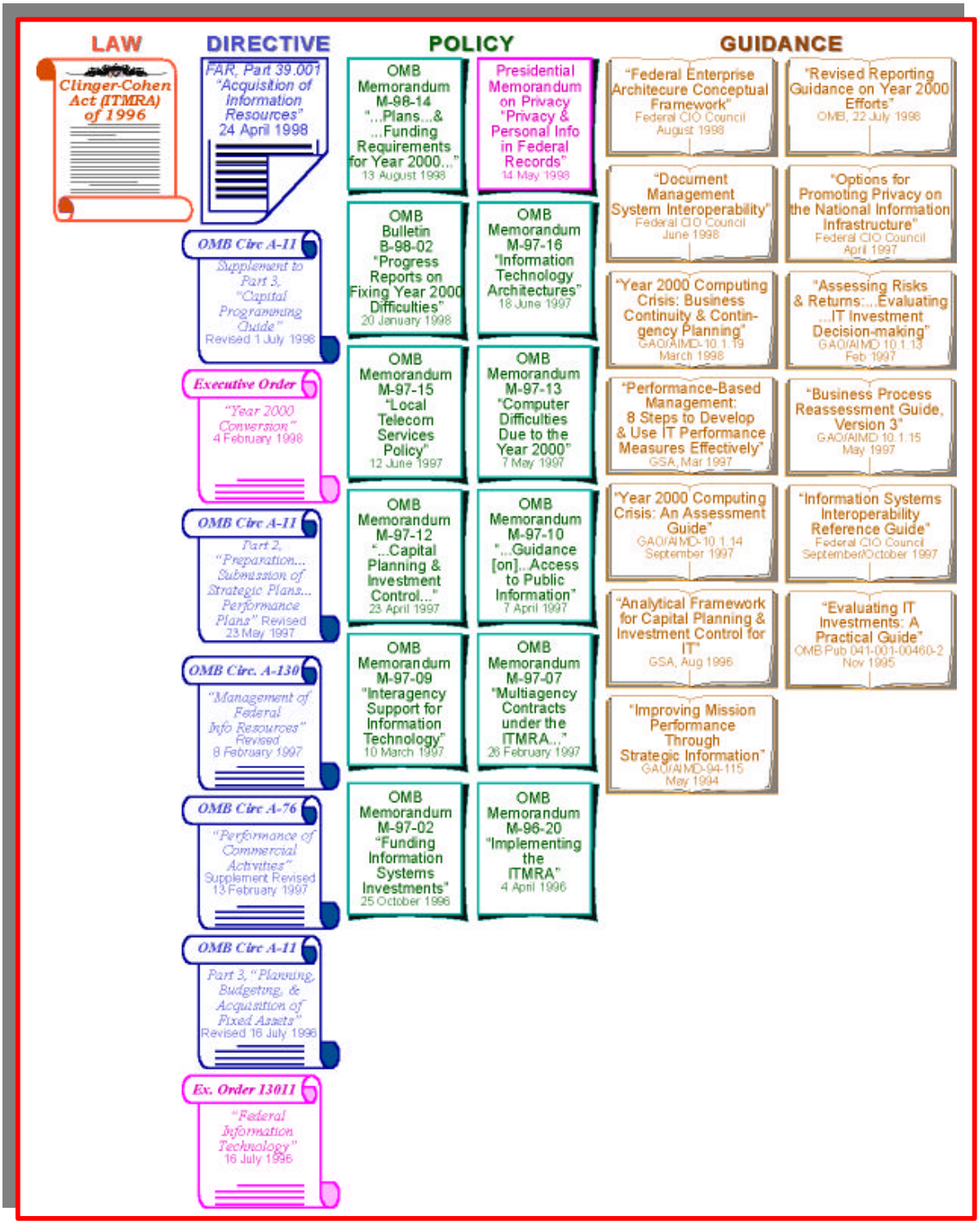


Figure 3-8. Cohen Act-Related Documents

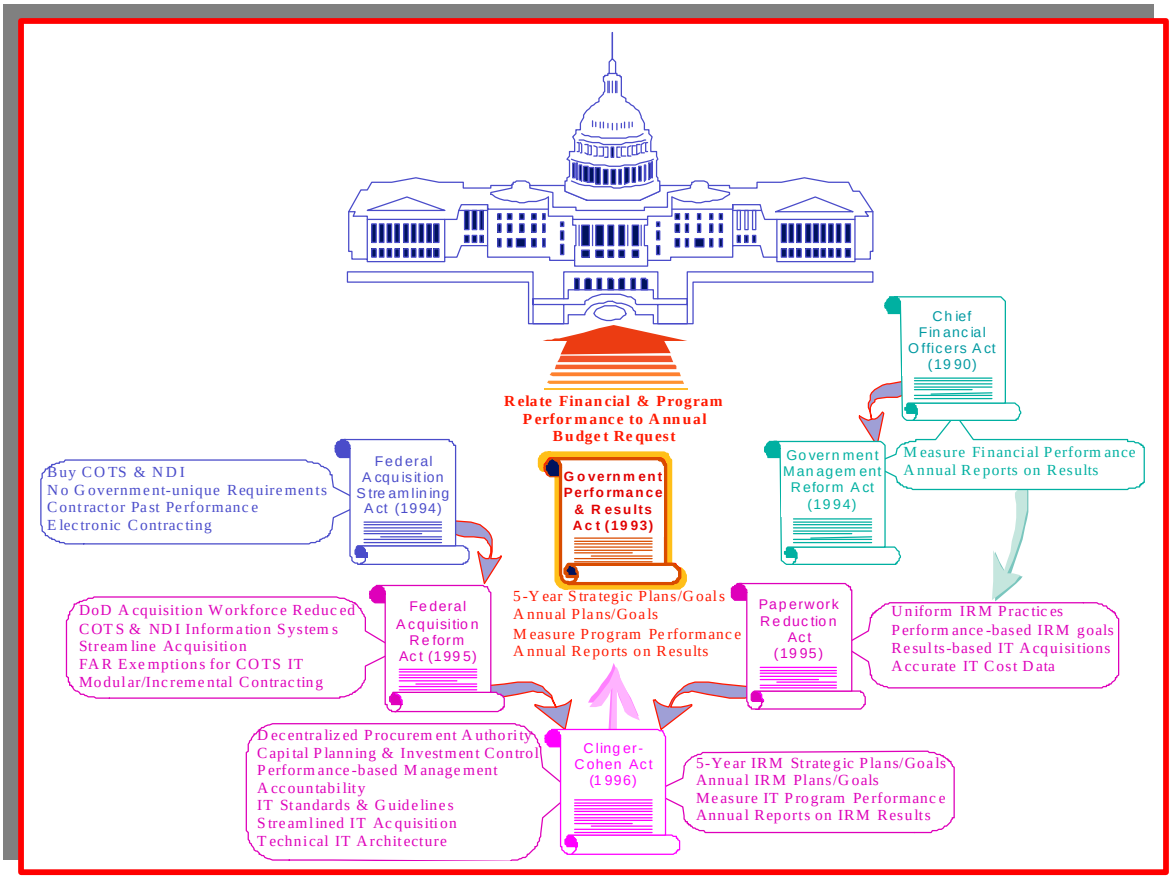


Figure 3-9. The Cohen Act is the Centerpiece for Information Technology Results-Based Management and Acquisition Reform

### 3.3.8.2 Information Technology Management Reform Act Implementation

**ASD(C3I) Memorandum: Information Technology Management Reform Act (ITMRA)** of 1996 Implementation, 6 August 1997, identified four imperatives critical to DoD's successful implementation of the Cohen Act.

1. Orient information technology investments towards a strategic business and mission focus;
2. Manage information resource investments based on performance and results;
3. Mandate performance measurements for all information technology, including National Security Systems (NSS) information systems; and
4. Use business process reengineering prior to information system acquisition.

### 3.3.8.3 Information Technology Management Strategic Plan

**ASD(C3I) Memorandum: Information Technology Management (ITM) Strategic Plan,** 20 March 1997, outlines DoD's plan for compliance with the Cohen Act. The DoD IM Strategic Plan (attached to the memorandum) is DoD's road map for information resource management into the next century. It provides an overarching vision and specific strategies to guide DoD information technology planning and resource decision making. DoD Component CIOs, Military Departments, Defense Agencies, and Field Activities are to use this plan as the basis for developing supporting strategic plans and IT investment portfolios.

#### 3.3.8.3.1 DoD IM Strategic Plan

The **DoD Information Management (IM) Strategic Plan Supporting National Defense** (DoD IM Strategic Plan), Version 1.0, March 1997, provides overall direction and guidance for managing DoD information resources. It establishes DoD's shared IRM vision, key goals and objectives, measures of performance, and strategies to accomplish IRM goals. Specifically, it provides the following.

- Links IM to joint warrior operational needs and mission support needs;
- Coordinate and integrates IM activities across functional areas and organizations;
- Creates broad mechanisms to systematically manage DoD IM resources and programs;
- Complies with the Cohen Act; and
- Serves as a model plan for IM strategic plans at other DoD levels and in other functions.

The DoD IM Strategic Plan focuses on two critical success factors: the joint and coordinated activity of DoD Components, and the customer. Customer orientation complies with the DoD priority to realign the way it does business, as reflected in IM mission and vision statements.

- **IM mission.** Provide the right information, at the right place and time from the right sources, in a form that users can understand and reliably use to effectively and efficiently accomplish their missions and tasks**.**
- **IM vision.** Information superiority will be achieved through global, affordable, and timely access to reliable, secure information for worldwide decision-making and operations. Critical success factors needed to realize the vision are characterized by four fundamental goals.

- **Goal #1. Become a mission partner**. IM is grounded in our national defense mission by using joint mission planning and analysis processes as the basis for defining information service and performance requirements.
- **Goal #2. Provide services that satisfy customer information needs**. This builds on Goal 1 requirements by using the customer/supplier model to meet mission service requirements.
- **Goal #3. Reform IM processes to increase efficiency and mission contribution**. This goal captures the essence of the Cohen Act by emphasizing the management process improvements needed to effectively deliver information and services to DoD mission customers.
- **Goal #4. Ensure DoD's vital information resources are secure and protected**. This reflects the pervasive impact of information assurance on DoD mission performance.

### 3.3.8.4 Requirements for Compliance with Reform Legislation for IT Acquisition (Including NSS)

**OSD Memorandum: Requirements for Compliance with Reform Legislation for Information Technology (IT) Acquisitions (Including National Security Systems)**, 1 May 1997, states that the Cohen Act applies to all DoD information system acquisitions, including those supporting weapon systems and other National Security Systems (NSS). NSS are exempt from the Cohen Act (as they were under the Nunn-Warner Amendment to the Brooks Act), with the exception that they must now comply with specific management best practices (discussed next). In consolation with the DoD CIO and CFO, the Cohen Act requires that OSD assess and maximize the value of information resources and manage DoD information system acquisition risks.

#### 3.3.8.4.1 Cohen Act Applicability to National Security Systems (NSS)

> "Recent guidance from OMB places added emphasis on managing investments, to include weapons systems." [OSD97]

The Cohen Act applies to all Defense software-intensive system domains. It applies to and combines:

- **Administrative systems**. Automated information systems (AIS);
- **Communications systems**. Command, control (C2), communications (C3), computer (C4), and intelligence (C4I) systems, and
- **NSS support systems**. Information systems that support National Security Systems (NSS).
- **Excludes contractor systems**. It does not include software-intensive goods or services acquired by a federal contractor incidental to a federal contract. [CLINGER96]

**NOTE - A list of current ACAT 1A Major Automated Information Systems (MAIS) programs can be found on the Defense Technical Information Center (DTIC) website.**

NSS acquisitions must be reviewed by the appropriate Milestone Decision Authority (MDA) to ensure they comply with Cohen Act provisions except as determined not to be practicable on a case by case basis. The DoD CIO [ASD(C3I)] and USD(A&T) are responsible for providing guidance in making these determinations.

**NOTE - The Defense Acquisition Board (DAB) is the Milestone Decision Authority (MDA) for Major Defense Acquisition Program (MDAP) NSS and the DoD CIO is the MDA for MAIS NSS.**

For NSS subject to review, the DoD CIO will provide an assessment of Cohen Act compliance to the MDA through the Defense Acquisition Board (DAB) and Major Automated Information System Review Council (MAISARC) Integrated Product Team (IPT) process. Component MDAs and ClOs are to follow similar practices for NSS information system programs subject to their review and approval. Once it is determined that an acquisition program falls under the NSS classification [including Black and Special Access Programs (SAP)], it is exempt from all but the following Cohen Act provisions.

- **Performance and results-based management**. OSD will prescribe performance measures and other controls for the NSS information system. The director of OMB will evaluate DoD's management practices and mission before approving significant investments in the NSS information system, *to the extent practicable*.
- **DoD CIO**. The DoD CIO will provide advice and assistance to OSD to ensure the NSS information system is acquired consistent with law and policy.
- **Capital planning and investment control**. *To the extent practicable*, the following applies:
  - OSD is required to implement a process for assessing and managing NSS acquisition risk; and
  - OMB is required to track and report on major capital NSS information system investments made by OSD and compare them with the information system performance of other agencies.

- **Accountability**. *To the extent practicable*, OSD is required to establish policies and procedures to ensure the NSS information system is used effectively and to provide financial or program performance data to OMB.
- **Enforcement of accountability**. OMB is to exercise controls that increase or reduce DoD's NSS information resources.
- **Exemption for contractor systems**. An NSS program is exempt from having its information resource management or information system acquisition contracted out to the private sector. [OSD97]

Figure 3-10 illustrates the reporting and oversight responsibilities for DoD information systems under the Cohen Act.

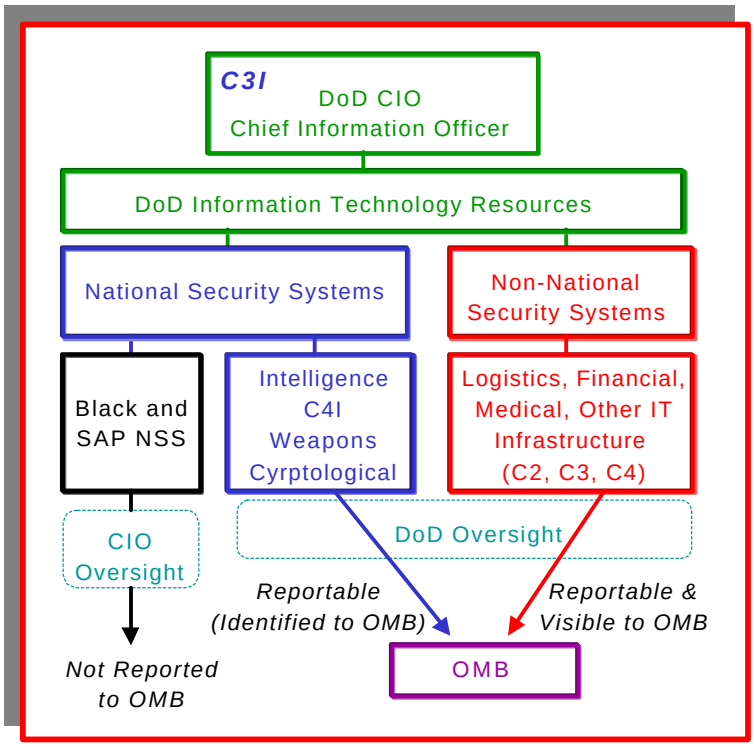


Figure 3-10. DoD Information Resource Oversight and Reporting Responsibilities

### 3.3.8.5 Implementation of Subdivision E of the Clinger-Cohen Act

**OSD Memorandum: Implementation of Subdivision E of the Clinger-Cohen Act of 1996 (Public Law 104-106)**, 2 June 1997, states that three questions must be asked before DoD invests in information technology.

1. What functions are we performing and are they consistent with our mission?
2. If we should be performing particular functions, could they be performed more effectively and at less cost by the private sector?
3. If a function should be performed by DoD, the law requires that the function be examined and redesigned or reengineered before applying new technology.

#### 3.3.8.5.1 DoD Chief Information Officer

The **DoD Chief Information Officer (CIO)**, the Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD(C3I)), will promote improvements to DoD work processes and supportive information resources. The Service CIO's will act as advisors to and implement the policies and guidance issued by the DoD CIO. The DoD CIO is the primary DoD representative to Federal and interagency bodies supporting Federal information technology policies. DoD is a leader in the use of information technology and these capabilities are to be shared with other Federal Agencies to the maximum extent practicable. [The assignment of duties and delegation of authorities for the DoD CIO are attached to this memorandum.]

#### 3.3.8.5.2 DoD Executive Board

DoD Executive Board, chaired by the DoD CIO, is the principal forum to discuss improvements in DoD IM practices. The Council serves in an advisory and coordinating capacity to improve the management and use of information technology by providing a forum for the exchange views concerning information technology. [A copy of the approved DoD Executive Board charter is also attached to this memorandum.] Figure 3-11 illustrates the DoD Executive Board organization hierarchy. Table 3-1 lists DoD Executive Board Members with hyperlinks to their respective web sites.

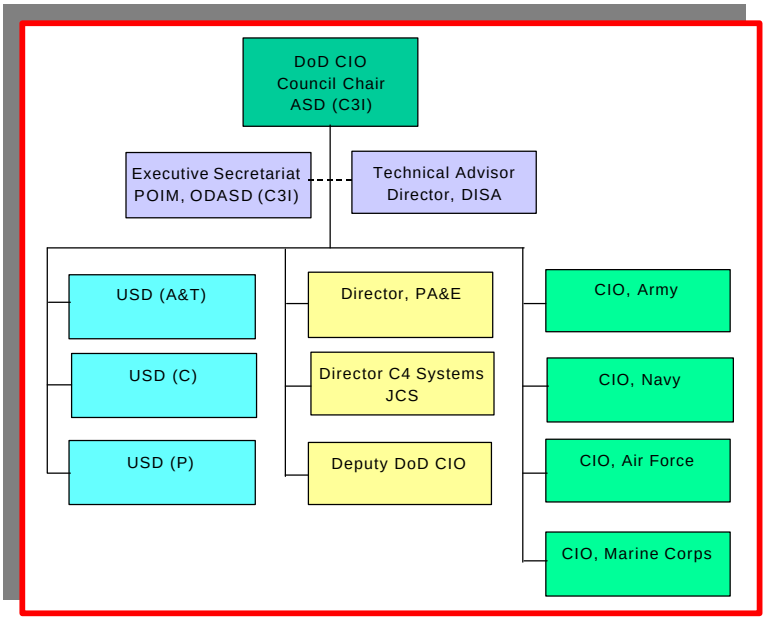


Figure 3-11. DoD Executive Board Organization [Source: ASD(C3I)]

| ORGANIZATION | CIO |
|---|---|
| Department of Defense | Mr. Arthur L. Money |
| Joint Staff | MG Stephen T. Rippe |
| Department of the Army | LTG William H. Campbell |
| Department of the Navy | Dr. Ann Miller |
| Marine Corps | LGEN(S) Robert Shea |
| Department of the Air Force | LtGen Gregory Martin |
| Defense Finance and Accounting Service | Mr. C. Vance Kauzlarich |
| Defense Information Systems Agency | Ms. Shirley L. Fields |
| Defense Logistics Agency | Ms. Carla von Bernewitz |
| National Security Agency | Mr. Ronald Kemper |
| Defense Intelligence Agency | Mr. Dennis G. Clem |
| Defense Contract Audit Agency | Mr. Michael L. Koza |
| Defense Security Assistance Agency | Mr. Kent Wiggins |
| Inspector General | Mr. Nicholas T. Lutsch |
| Defense Commissary Agency | Ms. Rosita O. Parkes |
| National Imagery and Mapping Agency | Mr. W. Douglas Smith |
| Advanced Research Projects Agency | Mr. David Thompson |
| Ballistic Missile Defense Organization | Mr. Robert Snyder |
| Defense Special Weapons Agency | Dr. Stephen E. Turpin |
| On-site Inspection Agency | LTCOL Lorraine Y. Bejiani |
| United States Special Operations Command | COL Steven R. Sawdey, USA |
| OASD (Health Affairs) | Mr. Jim Reardon |
| Washington Headquarters Service (WHS) | Mr. Robert S. Drake |
| National Reconnaissance Office | Ms. Janet Gale |

Table 3-1. DoD Executive Board Members [SOURCE: ASD(C3I)]

### 3.3.8.6 IT Investment Management Insight Policy for Acquisition

**ASD(C3I) Memorandum: Information Technology (IT) Investment Management Insight Policy for Acquisition**, 25 July 1997, explains that DoD must embrace new ways of doing business and understand the need to treat technology expenditures as investments. Polices, practices, and procedures must be revised and cultural and organizational barriers overcome. IT investment management must be fully integrated with the IT capital planning and investment control process.

This insight policy is part of an IT investment process which is evolving from centralized IT oversight and to an environment that fosters greater teamwork, open dialog, and a sense of common purpose. The following steps streamline IT acquisition policy and institutionalize IT acquisition investment management.

- **Step 1**. IT acquisitions, including NSS, that exclusively support MDAP or MAIS. Insight will be gained through the IPT process and MAISARC or DAB documentation. No separate submissions are required. Requirements for compliance with reform legislation are stated in OSD Memorandum: *Requirements for Compliance with Reform Legislation for Information Technology Acquisitions (Including National Security Systems)*, 1 May 1997, discussed above.
- **Step 2**. IT acquisitions that do not exclusively support MDAPs or MAISs. DoD Components shall submit either:
  - A copy of the Acquisition Plan (AP) prepared in accordance with DFARS Subpart 207.1, if an AP is required; or
  - An IT Acquisition Paper (ITAP). [NOTE - The format for an ITAP is included as an attachment to this memorandum.]

- **Step 3**. DoD Components shall incorporate an IT investment baseline performance agreement into their IT acquisition procedures. The ASD(C3I) Guide for Managing Information Technology as an Investment and Measuring Performance, Version 1.0, 14 February 1997, contains a sample investment baseline agreement which may be tailored or expanded to meet specific program requirements for developing the agreement, its breach variance and its performance measures.

These procedures apply to the OSD, Military Departments, Chairman of the Joint Chiefs of Staff, Combatant Commands, DoD Inspector General, Defense Agencies, and DoD Components. They are applicable to the following IT acquisitions, including NSS.

1. IT acquisitions in exclusive support of MDAPs or MAISs.
2. IT acquisitions not exclusively in support of MDAPs or MAISs, with the following estimated IT cost.
   - Army, Navy, and Air Force:
     - $120 million or greater total IT cost, or
     - $30 million or greater in a single year.
   - Other DoD Components, competitive:
     - $30 million or greater total IT cost.
   - Other DoD Components, other than full and open competition:
     - $3 million or greater total IT cost.

An IT Investment Management Insight Framework will document strategies and methods for identifying, developing, and institutionalizing new capabilities and procedures throughout the Department. As IT investment practices mature within the framework, they will migrate to the 5000 and/or 8000 series.

## 3.4 DoD 5000.1/DoD 5000.2-R and the Statutory Framework

DoD has updated its acquisition policies to accomplish several objectives, including compliance with the FASA, PRA, and the Cohen Act. These policy updates are known as **DoD 5000.1, Defense Acquisition Directive** (March 23, 1996) and defense acquisition regulation, **DoD 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information Systems (MAIS)**, (Revision 3, 15 March 1998).

The most important item in the current revision applies to software-intensive systems. With the Cohen Act's repeal of the Brooks Act, acquisition policy for MDAPs (for embedded weapon systems) and MAIS has been combined into one guidance document. Historically, DoD treated these two classes of programs separately in terms of policies and procedures. Several separate AIS policy documents in the 7920 and 8120 directive and instruction series were cancelled. While the revised DoDD 5000.1 specifies guiding principles for all DoD acquisition programs, the new regulation 5000.2-R applies specifically to major programs. The intent of this change is to decentralize acquisition practice and allow Component Acquisition Executives more autonomy in managing the programs for which they are accountable.

## 3.4.1 Milestone Decision Authority (MDA)

MDAPs (ACAT I) are subject to Milestone Decision Authority (MDA) review by the DAB under the responsibility of the USD (A&T). The Program Manager (PM) is in charge of the program and Integrated Product Teams (IPTs) are empowered to help the PM resolve issues before DAB reviews, thus streamlining the review process. By combining all acquisition programs under the 5000-series, on joint ACAT I and ACT IA programs, requirements have been cut in half. As illustrated on Figure 3-12, on joint programs only one of each of the following need be prepared:

- One quality assurance program;
- One program change control program;
- One integrated test program; and
- One set of documentation and reports to include:
  - One joint program Operational Requirements Document (ORD),
  - One Test and Evaluation Master Plan (TEMP),
  - One Acquisition Program Baseline (APB),
  - One Defense Acquisition Executive Summary (DAES),
  - One Quarterly Report for ACAT IA programs, and
  - One Selected Acquisition Report (SAR) for ACAT I programs.

### 3.4.1.1 Elimination of the MAISRC

OSD Memorandum: *Elimination of the Major Automated Information System Review Council (MAISRC)*, 28 July 1998, was signed by Deputy Secretary of Defense, John J. Hamre. It states that since 15 March 1996, oversight of Major Automated Information System (MAIS) acquisition programs (ACAT IA programs) has been largely conducted through the integrated product team (IPT) process. With the success of acquisition reform and the IPT process, and the related emphasis on teamwork, tailoring, and empowerment, it is rarely necessary to hold a formal meeting of the MAISRC. As part of DoD streamlining initiatives, the MAISRC is disestablished. The MAISRC Overarching IPT (OIPT) has been redesignated the Information Technology OIPT.

ASD(C3I), the DoD CIO, continues to be the MDA for ACAT IA programs. When issues regarding ACAT IA programs cannot be resolved by the IPT process, the DoD CIO or his designee will convene a special review to resolve issues.

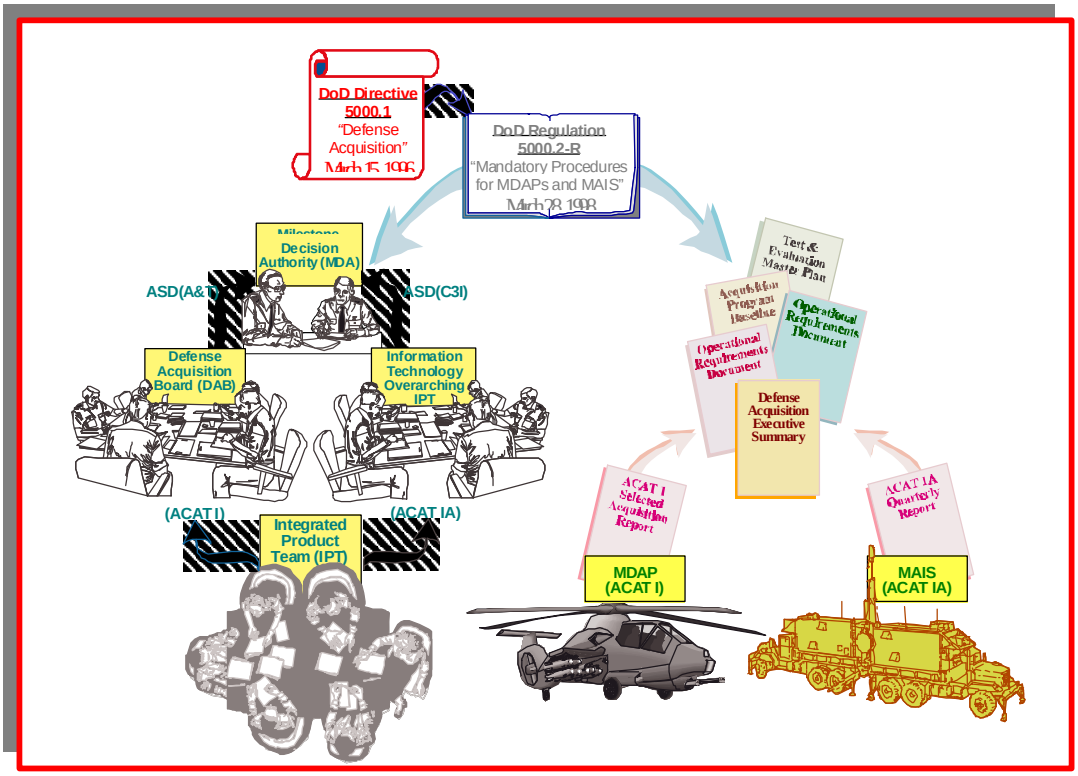


Figure 3-12. Review and Reporting Structure for MDAPs and MAIS under DoD 5000.2-R

## 3.4.2 Software-Intensive Systems

DoD 5000.1 recognizes that software is a critical element in DoD systems. It states that *it is critical that software developers have:*

- A successful past performance record,
- Experience in the software domain or product line,
- A mature software development process, and
- Evidence of use and adequate training in software methodologies, tools, and environments.

### 3.4.2.1 Software Engineering

DoD 5000.2R requires that all software developments must be managed and engineered using commercial best processes and practices to reduce cost, schedule, and performance risks. As required by the Cohen Act, software-intensive systems must be designed and developed based on systems engineering principles, which include:

- **Architecture**. Software system architectures are developed that support open system concepts; exploit commercial off-the-shelf (COTS) computer products; and provide for incremental improvements based on modular, reusable, extensible software.
- **Reuse**. Software reuse opportunities are identified and exploited (Government and industry) before beginning a new software development.

- **Programming languages**. Programming languages are selected in the context of the systems and software engineering factors that influence overall life-cycle costs, risks, and potential for interoperability [see ASD(C3I) Memorandum, Use of the Ada Programming Language, 29 April 1997].
- **Standard data**. DoD standard data is used [see **DoDD 8320.1**].
- **Successful contractors**. Contractors are selected with:
  - Domain experience in developing comparable software systems;
  - Successful past performance record; and
  - Demonstrable software development capability and a mature process.
- **Measurement**. Contractors are selected with a mature measurement process for planning, tracking assessing, and improving the software development process and software product(s).
- **Risk management**. Information system operational risks have been assessed [see DoDD S-3600.1].
- **Year 2000**. All software is Year 2000 compliant.

#### 3.4.2.1.1 Information Security

In compliance with PRA and Cohen Act provisions, AIS systems must be managed and engineered using best known processes and practices to reduce security risks, including the risks of timely accreditation. Information assurance requirements must be included in program and systems design activities to ensure availability, integrity, authentication, confidentiality, and non-repudiation of critical program technology and information. This includes providing for the restoration of information systems by incorporating protection, detection, and reaction capabilities. Information assurance requirements are to be established and maintained throughout the acquisition lifecycle for all ACAT IA programs (and others as applicable). All AISs must meet security requirements in accordance with **DoDD 5200.28** and be accredited by the Designated Approving Authority before processing classified or sensitive unclassified data. Exceptions to the DoDD 5200.28 requirement to use trusted computer products, listed on the Endorsed Products List, will be granted only by the DoD CIO [ASD(C3I].

### 3.4.2.2 C4I Support Plan

DoD recognizes that 60% to 80% of a software-intensive system's life cycle cost is incurred during post-deployment software support (PDSS). To implement Total Ownership Cost (TOC) initiatives, for C4I systems and all weapons systems/programs that interface with C4I systems, DoD 5000.2R requires that a support plan be prepared. The C4I Support Plan includes:

- System description,
- Employment concept,
- Operational support requirements (including C4I, testing, and training),
- Interoperability and connectivity characteristics, and
- Management and scheduling.

An evaluation of compatibility, interoperability, integration, and intelligence support for targeting requirements must also be performed for all major weapons, systems, and programs. C4ISR (C4I surveillance and reconnaissance) requirements must be reviewed and updated at every milestone decision and whenever the concept of operations or intelligence requirements change.

## 3.4.3 Results-Oriented Acquisition Management

Even before the FASA and Cohen Act, 10 U.S.C. 2435 required that DoD establish GPRA cost, schedule, and performance goals in an Acquisition Program Baseline (APB) document for each MDAP.

DoD's implementation of FASA, Title V performance-based management provisions are reflected in DoD 5000-2R by emphasizing the determination of producibility early in the development cycle. The policy states that producibility is key to managing risk and that existing development processes must be capitalized on when possible. It also states that production should not be approved until the design has been stabilized, development processes have been proven, and facilities, equipment, [and people] are in place. [HINTON98]

### 3.4.3.1 Linking Acquisition Programs to Strategic Goals

To comply with the GPRA, the Mission Need Statement (MNS) must be linked with the mission described in the DoD Strategic Plan (the QDR). This emphasizes the interrelationships among defining requirements, managing system development, and making funding decisions. The main objective is to translate users' needs into products with affordability as a key discriminator.

### 3.4.3.2 Nontraditional Acquisition

**DoDD 5000.1** encompasses several guiding principles that reflect how a reinvented defense acquisition system is responding to larger changes in the global threat environment. For example, the new policy stresses the importance of nontraditional acquisition:

> *"Demonstrations based on mature technologies may lead to more rapid fielding. Where appropriate, managers in the acquisition community shall make use of non-traditional acquisition techniques, such as Advanced Concept Technology Demonstrations (ACTDs), rapid prototyping, evolutionary and incremental acquisition, and flexible technology insertion."* [**DoD 5000.2R** Para 2.7]

Other nontraditional policy principles include modeling and simulation, innovative practices, modular contracting for MAIS acquisitions, and Cost As an Independent Variable (CAIV). Moving away from the historical report-based interaction model, DoD 5000.2-R explicitly relies on Integrated Product Teams (IPTs) [discussed in Chapter 4, *DoD Acquisition Environment*] to break down the barriers between different organizations and acquisition disciplines. IPTs enable integrated solutions to management problems.

## 3.4.4 Acquisition System Reengineering

With the 5000-series DoD consolidated an acquisition policy system that had grown out of control, by "*deconstructing*" and consolidating it into a minimal set of mandatory principles and procedures to empower managers with the greatest possible discretion. Thus, the regulation states that *it is not be supplemented by any DoD Component documents*. It directs DoD officials to keep to a minimum service-specific directives, regulations, policy memoranda, or regulations to implement the mandatory procedures. It also seeks to separate mandatory policies and procedures from

discretionary practices. The intent is to empower acquisition managers with the freedom to exercise sound judgment when structuring and managing defense acquisition programs. For example,

> *"The Department encourages PMs to continually search for innovative practices that reduce cycle time, reduce cost, and encourage teamwork."* [DoDD 5000.1, para 2.h.]

This revision has responded to the perception that the past 5000-series documents were unwieldy and too complex. To make them user-friendly, the current documents are incorporated into the Defense Acquisition Deskbook [discussed in Chapter 4, DoD Acquisition Environment], the universal electronic and hard copy repository of all DoD mandatory and discretionary guidance. [FERRARA96]

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